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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,043

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Patrick Pichat

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EXAMINER

EIDE, HEIDI MARIE

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/564,043	<b>Applicant(s)</b> PICHAT ET AL.	
	<b>Examiner</b> HEIDI M. EIDE	<b>Art Unit</b> 3732	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12, 20, 21, 23 and 25-29 is/are pending in the application.
- 4a) Of the above claim(s) 4-9 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-12, 21, 23 and 25-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The amendments to the specification received August 12, 2010 have been accepted and entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 10-11, 25 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (2004/0058627) in view of Malmin (4,276,880) in view of Davis (5,049,071).
4. Harris teaches a nozzle piece for a dental powder jet apparatus adapted for an exchangeable assembly on a handpiece and having a discharge nozzle for fluid as well as a discharge nozzle for discharging a mixture of air and a dental powder suitable for cleaning teeth in the area of a gum pocket, wherein a front partial length at an outlet cross section of the discharge nozzle 98 for the air powder mixture projects from a grip of the nozzle piece connected to the handpiece, wherein the front partial length is formed as a first tube having a longitudinal axis and an outer peripheral surface and is provided with a nozzle opening, wherein the front partial length of the discharge nozzle for the air-powder mixture has a size capable of being inserted into a gum pocket (par. 30), wherein the discharge nozzle for the fluid 100 is formed as a second tube having a

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second longitudinal axis, wherein the mouth of the discharge nozzle for the fluid 100 is axially displaced backwards with respect to the discharge nozzle for the air-powder mixture 98 (fig. 2), wherein the longitudinal axis of the second tube of the fluid discharge nozzle is displaced laterally toward one side from the longitudinal axis of the first tube of the discharge nozzle for the air-powder mixture (fig. 2) and the second tube has an outer peripheral surface that is disposed adjacent the outer peripheral surface of the first tube (fig. 2). Harris teaches the invention as substantially claimed and discussed above, however, does not specifically teach the front partial length of the first tube has a closed end and a plural of nozzle openings in the outer peripheral surface and an oval or elliptical cross section.

5. Malmin teaches a tube comprising a closed end and a plurality of nozzle openings on the outer peripheral surface (fig. 6-7, 17, col. 4, ll. 31-37, col. 10, ll. 14-50). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the nozzle taught by Harris with the closed ended nozzle taught by Malmin in order to more effectively remove debris and prevent damage to the soft tissue. Harris/Malmin teaches the invention as substantially claimed and discussed above, however, does not specifically teach the tube having an oval or elliptical cross section.

6. Davis teaches a first tube of the discharge nozzle for the air-powder mixture has an elliptical cross-section (fig. 7, col. 4, ll. 13-20). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the cross section of the tube taught by Harris/Malmin with the elliptical cross section taught by Davis as a

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matter of obvious design choice since it has been held that such a modification involves only routine skill in the art (In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) MPEP 2144.04 IV B).

7. Harris further teaches wherein the first tube 68 is composed of a single-use product exchangeably mounted on the grip (par. 30, the tube is capable of being disposed of after being used once, therefore it is of a single use product) and the first tube is held by a holding piece 90 which is rotatable relative to the grip 12. Harris further teaches a tube for the air-powder mixture is made of a plastic material (par. 25), however, does not teach the nozzle is made of plastic, however, it would have been obvious to one having ordinary skill in the art at the time of the invention to make the nozzle out of plastic also in order to withstand autoclaving and be sufficiently flexible. Harris teaches the invention as substantially claimed and discussed above, however, does not specifically teach the nozzle openings are arranged in a common radial plane of the tube and are spaced in regular distances or in varying distances along the corresponding circumference of the tube, wherein the nozzle openings are elongated and a defined longitudinal axis of the slot shaped nozzle openings is parallel to the main axis of the tube.

8. Malmin teaches the nozzle openings are arranged in a common radial plane of the tube and are spaced in regular distances along the corresponding circumference of the tube, the nozzle openings are elongated (col. 5, ll. 65-68, col. 7, ll. 1-2, figs. 6-7) and a defined longitudinal axis of the elongated shaped nozzle openings is parallel to the main axis (fig. 5). It would have been obvious to one having ordinary skill in the art at

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the time of the invention to modify the nozzle taught by Harris with the closed ended nozzle taught by Malmin in order to more effectively remove debris and prevent damage to the soft tissue.

9. Claims 3, 12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (2004/0058627) in view of Malmin (4,276,880) in view of Davis (5,049,071) as applied to claim 1 above, and further in view of Maita et al. (4,993,941).

10. Harris/Malmin/Davis teaches the invention as substantially claimed and discussed above, however, does not specifically teach the nozzle openings are arranged in at least two different radial planes of the tube and in that the nozzle openings in one radial plane are twisted with respect to the nozzle openings in the other radial plane in the circumferential direction of the tube and in one of the planes at least three nozzle openings are disposed along the corresponding circumference of the tube and the tube shaped front partial length of the nozzle piece has an arched shape ending at the nozzle openings of the discharge nozzle.

11. Maita teaches a nozzle comprising nozzle openings that are arranged in at least two different radial planes and are twisted (fig. 1), three openings are preferred (col. 2, ll. 40-45) and an arched shaped end (fig. 2). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the nozzle openings and shaped of the nozzle taught by Harris/Malmin/Davis with the arched end and twisted arrangement in order to dispense the cleaning solution in diverse direction to enhanced the cleaning effect.

12. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (2004/0058627) in view of Malmin (4,276,880) in view of Davis (5,049,071) as applied to claim 1 above, and further in view of Ito et al. (2001/0031441).

13. Harris/Malmin/Davis teaches the invention as substantially claimed and discussed above, however, does not specifically teach the fluid discharge nozzle is provided with a diffuse shaped outlet cross section.

14. Ito teaches a fluid outlet comprising a diffuser shaped outlet cross section (fig. 5). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the nozzle taught by Harris/Malmin/Ito with the diffuser nozzle taught by Ito in order to direct the fluid to the desired surface in a flat stream as preferred by the user.

15. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (2004/0058627) in view of Malmin (4,276,880) in view of Davis (5,049,071) as applied to claim 1 above, and further in view of Linder (5,188,617).

16. Harris/Malmin/Davis teaches the invention as substantially claimed and discussed above, however, does not teach a scale provided on the tube shaped front partial length of the nozzle piece.

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17. Linder teaches a scale 19 on the tube shaped front partial length 17 of the nozzle piece 4. It would have been obvious to one having ordinary skill in the art to modify the nozzle taught by Harris/Malmin/Davis with the scale taught by Linder in order to measure a distance as taught by Linder (col. 3, l. 42).

### ***Response to Arguments***

18. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to HEIDI M. EIDE whose telephone number is (571)270-3081. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on 571-272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**Heidi Eide**  
**Examiner**  
**Art Unit 3732**

/Heidi M Eide/  
Examiner, Art Unit 3732

10/15/2010

/Cris L. Rodriguez/  
Supervisory Patent Examiner, Art Unit 3732